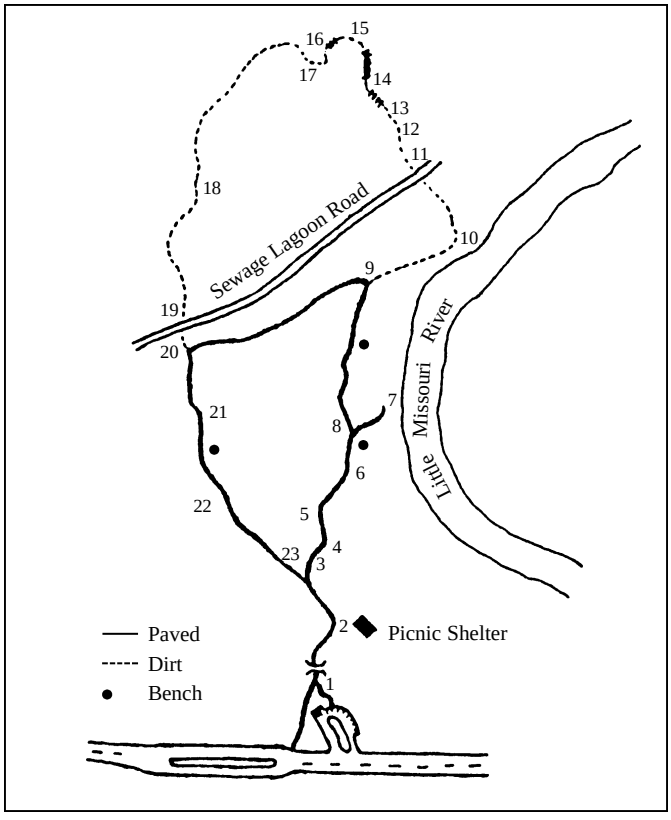
Theodore Roosevelt **National Park**
North Dakota
National Park Service
U.S. Department of the Interior

LITTLE MO NATURE TRAIL



The walk ahead of you is an easy 1.1-mile loop. You may also choose to take a shorter loop which is 0.7 mile and is paved. Using this leaflet in conjunction with the numbered posts along the trail, you are invited to explore the wonders of the plants, wildlife and geology of the Little Missouri River Badlands. With or without this leaflet, the trail offers a leisurely and quiet walk through river bottom environments.

POISON IVY AND PRAIRIE RATTLESNAKES ARE FOUND IN THE UNDERBRUSH. WATCH YOUR STEP AND PLEASE STAY ON THE TRAIL. LEAVE PLANTS, ROCKS, BONES, AND ALL OTHER NATURAL OBJECTS UNDISTURBED FOR OTHERS TO ENJOY.

"There is so great a charm in absolute solitude, in the wild, lonely freedom of the great plains, that often I would make some excuse and go off entirely by myself."
Theodore Roosevelt

1. SQUAW CREEK
The small creek below the bridge is one of many tributaries emptying into the Little Missouri River. As the creek winds its way through the badlands it carries sediments washed down from the buttes by rain. Iron compounds give the sediment and water their dark brown-red color.

2. CCC PICNIC SHELTER
The Civilian Conservation Corps was in the North Unit from 1934 until 1941. Enrollees were responsible for laying out what are now park roads and the camp-ground, as well as constructing this and other shelters. The green and orange splotches growing on the stone base are plants called lichens. Obtaining most of their nutrients from the air, lichens are particularly vulnerable to air pollution.

FOLLOW THE TRAIL TO YOUR RIGHT.

3. SKUNKBUSH SUMAC
Generations of observation and trial taught the Plains Indians the value of native plants for food, medicine and raw materials. The tart red berries of skunkbush sumac **(Rhus aromatica)** were steeped in hot water to make a drink similar to lemonade. Note the leaves growing in groups of threes. This sumac is closely related to poison ivy, but is not poisonous.

4. WOODED HABITAT
Many songbirds make their home in the vegetation beneath the cottonwood trees. Least chipmunk and white-tailed deer are found here, too, relying on the trees and thick brush for food and shelter. Stop a moment and listen for some of the residents of the understory.

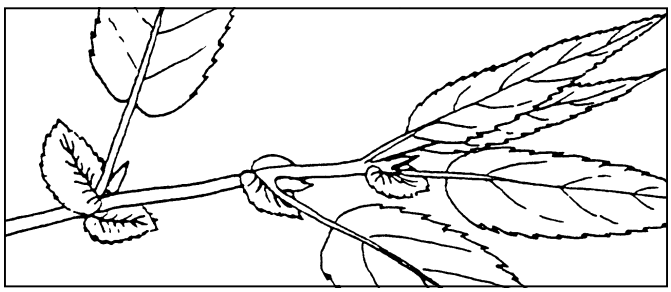
"...the wilderness, selected portions of it have been kept here and there in a state of nature, not merely for the sake of preserving the forests and the water, but for the sake of preserving all its beauties and wonders un-spoiled by greedy and short-sighted vandalism."
Theodore Roosevelt

5. WOLFBERRY

Wolfberry or "buckbrush" **(Symphoricarpos occidentalis)** is found throughout the Great Plains. The Plains Indians steeped the leaves in water and made a mixture to treat inflammation of the eyes. The berries remain on the plant through the long winter and serve as food for wintering birds.

6. MISSOURI WILLOW (Salix missouriensis)

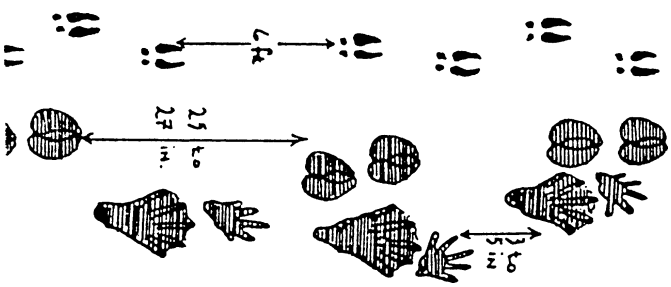
The inner bark of willow contains an effective pain-killing chemical, the same compound found in today's aspirin. Scientists are learning that plants used in folk remedies frequently contain chemicals that are effective in treating specific ailments.



FOLLOW THE TRAIL TO YOUR RIGHT TO VIEW THE RIVER.

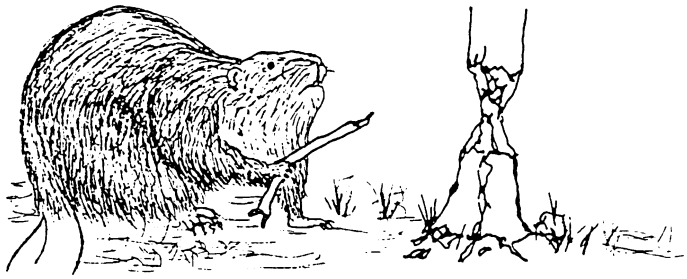
7. RIVER VIEW

The Little Missouri River is an ideal place to view animals. The river is also home to several species of fish. Can you find and identify any wildlife tracks? White-tailed deer, bison, and beaver tracks are shown below.



8. BEAVER

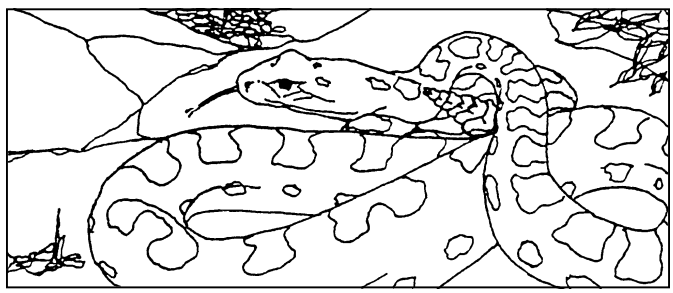
North America's largest rodent is responsible for felling many of the trees in this area. You could call this a beaver workshop. Hunted almost to extinction by 1900, the beaver has returned to North Dakota and may be seen in the evening along Squaw Creek and the Little Missouri River. Look for signs of beaver activity as you walk the trail.



THE NATURE TRAIL CONTINUES TO YOUR RIGHT. THE PAVED TRAIL CURVES TO THE LEFT AND SHORTENS THE LOOP BY 0.4 MILE.

9. SNAKES

The park is home to 7 species of snakes: plains hognose snake; western plains and red-sided garter snakes; yellow-bellied racer; western smooth green snake; bullsnake; and the prairie rattlesnake. Only the prairie rattlesnake is poisonous. Listen for its warning rattle as you walk along; these cold-blooded animals can sometimes be seen warming themselves on the trails or slithering through the grass.



10. LITTLE MISSOURI RIVER

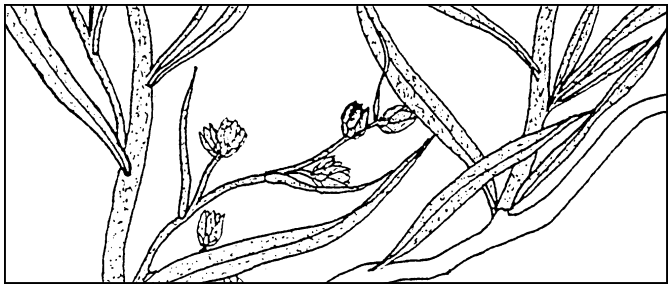
You are standing at a river meander that is cutting or eroding the steep bank below. As rivers flow, erosion occurs on the outside of the curve while deposition occurs on the inside of the curve. A younger Little Missouri River, its dammed up ice-age waters released by retreating glaciers to follow a new course, carved the badlands scenery we view today.

11. SINKHOLE
Sinks are caused by the rapid underground erosion of soft material by water pooled in subterranean cavities. As the sediments are removed, the unsupported overlying layers collapse, leaving depressions or holes. Sink formation is an on-going process, helping to shape the badlands and providing temporary shelter for wildlife.

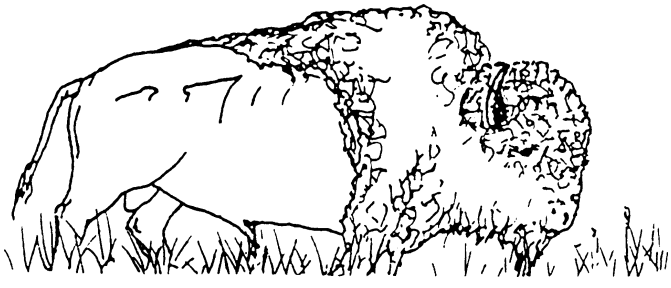
12. SILVER SAGEBRUSH
"The dusty little sage-brush stunted and dried up, sprawls over the parched ground, from which it can hardly extract the small amount of nourishment for even its wizened life."

Theodore Roosevelt

This silvery, green-leaved shrub is silver sage **(Artemisia cana)**, one of several species of sagebrush found in the park. American Indians used its aromatic leaves (brush fingers against plant and smell) as an incense during religious ceremonies, as a fragrance for bath water, and as a seasoning when cooking meats.



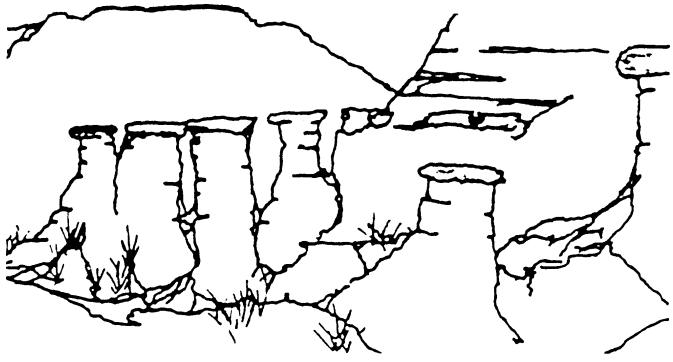
13. WILDLIFE TRAILS
Wildlife trails like this one can be seen throughout the park. Most are bison trails, but other wildlife, including humans, use them for travel too. If you hike some of the longer trails, you'll soon find that bison are very agile animals, able to traverse the park's rugged terrain with ease.



14. BADLANDS BREEZE
Just as we enjoy walking through upland prairie grasses, we also delight in the fresh breeze blowing across our faces. Standing in an open area such as this gives us a sense of "being close to nature" as we take in the endless sky and breath the clean air. Unfortunately, the air here in the park contains pollutants, including acid rain, hydrogen sulfide from energy development and solid particles (wind-blown dirt). We should all become more involved in protecting the environment where we live. Doing so will help ensure that our communities and special places like Theodore Roosevelt National Park remain healthy for us and future generations to enjoy.

CAUTION! THE STEEP STEPS ARE SLIPPERY WHEN WET.

15. CONCRETION RAIN PILLARS
These pillars are topped with hard caprocks or pedestal rocks that shelter the softer underlying sediment layers from the erosive effects of rainfall. Wind, running water and the splash of raindrops over time slowly removes the weaker material. Gravity ultimately upsets the delicate balance and the stone caps topple to the ground.



16. LIGNITE
The soft, black material exposed beneath the steps and ringing the top of this small butte is a lignite coal seam. This low-grade coal which can be seen throughout the area in horizontal layers, indicates a wetter climate and changing past environments.

17. BENTONITE
The blue-gray material you see here is bentonitic clay. Bentonite is altered volcanic ash carried into this area from eruptions in the rising Rocky Mountains long ago. The clay is able to absorb several times its volume in water and becomes very slippery when wet. It is used in over 1,000 products, including auto polish, crayons, face creams, laxatives and spark plugs.

18. PRICKLY PEAR CACTUS

The prickly pear cactus **(Opuntia polyacantha)** stores water in its fleshy stems (the large green pads) and can withstand long droughts. Its leaves have been reduced to spines as a further aid in preserving moisture, as well as to protect the plant. The thick, sticky juice found in the stems was used by American Indians to stabilize colors painted on hides. The cactus blooms from mid-June through July.

19. BUCKHORN TRAIL CROSSING

You are about to cross a service road and the Buckhorn Trail, and 11.3-mile loop trail through broken badlands, prairie dog towns and grasslands. All backcountry trails in the park are marked by posts with silhouettes of Theodore Roosevelt. Information on backcountry use is available at the visitor center.

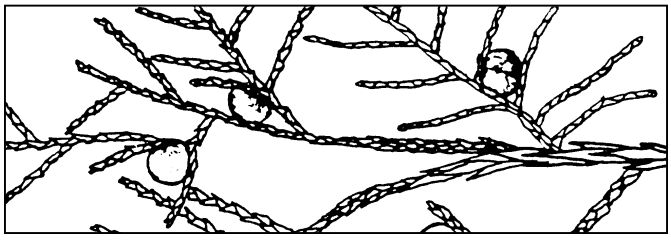
20. BATTLESHIP BUTTE

The butte across the main park road is called "Battleship." Using your imagination, can you spot a ship steaming up the Little Missouri River? The badlands have unique features and interesting shapes created by the forces of erosion. During your visit, think of names you would apply to unusual land formations.

STAY TO THE RIGHT TO RETURN TO TRAILHEAD.

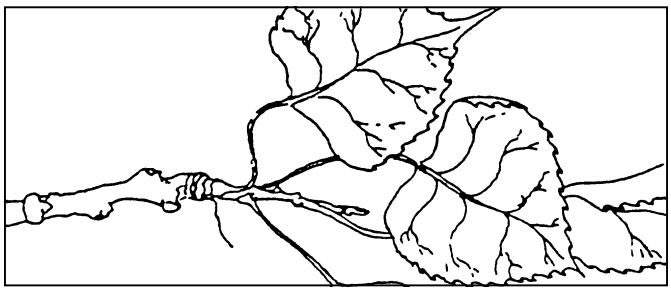
21. ROCKY MOUNTAIN JUNIPER

The small pale-blue berries of the rocky mountain juniper **(Juniperus scopulorum)** grow only on the female tree and are an important source of food for wintering birds. Plains Indians frequently used juniper for medicinal purposes, often inhaling the smoke of smoldering branches to clear blocked sinuses. Today, juniper berries are used in homemade rootbeer as well as to flavor alcoholic beverages, particularly gin.



22. COTTONWOOD TREES

Plains Indians and settlers depended upon the cottonwood **(Populus deltoides)**, a short-lived, fast-growing tree, as a source of fuel, shade and building materials. During severe winters the thick cottonwood bark was fed to horses. This water-loving tree "drinks" up to 50 gallons of water a day and is easily recognized by the distinctive sound of its rustling leaves.



23. BUFFALOBERRY (Shepherdia argentea)

The red berries of this common North Dakota shrub provide winter food for wildlife. The fruit is used today, as in the past, as a source of food and jam. The northern shrike, a small rodent and insect-eating bird, impales its prey on the shrub's sharp thorns.

STAY TO THE RIGHT TO RETURN TO TRAILHEAD.

As you explore more of the Little Missouri Badlands note the differences as well as similarities in the plants and animals to this river bottom environment.

"It is an incalculable added pleasure to any one's sum of happiness if he or she grows to know, even slightly and imperfectly, how to read and enjoy the wonder-book of nature."

Theodore Roosevelt

You may keep this leaflet or return it to the dispenser.

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PUBLISHED BY THE THEODORE ROOSEVELT NATURE AND HISTORY ASSOCIATION IN COOPERATION WITH THE NATIONAL PARK SERVICE-SEPTEMBER, 1996.

ILLUSTRATED BY TODD WINTER.